

REMARKS

Claims 5 and 8-10 were rejected. Claim 5 is amended. Support for this amendment can be found at least at page 7, lines 20-24, and Figures 3 and 4 (note that Figure 4 is a more detailed view of Figure 3). No new matter is added. Claims 5 and 8-10 are now pending. The above amendments and the following remarks are considered by Applicants to overcome each rejection raised by the Examiner and to place the application in condition for allowance.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claim 5 and 8-10 pursuant to 35 U.S.C. § 102(b) as being anticipated by Hutchins (U.S. Pat. No. 5,928,952). Applicants respectfully traverse the rejection.

Hutchins discloses a processing system for chemical products. The system includes a plurality of modules denoted as “units 12.” Each unit 12 comprises a workstation 18 that effects specific operations on the products to be processed. (See Hutchins, column 3:45-61.) Each unit 12 comprises only one workstation 18. Thus, each unit (module) can effect only one specific operation.

The different units 12 (modules) are connected with a transport system 21 for moving the assay products in a *sequential* manner through the units. (See Hutchins, column 3:62-64.) A robotic device 23 is associated with each unit to transport assay products from a preceding unit to a succeeding unit. (See Hutchins, column 3:64-4:1.) The operation of the robotic devices is explained in detail in relation to Figures 5a-5e at column 4:39-65.

The Examiner contends that Hutchin’s transport system 21 corresponds to the internal transport system of the claimed device. Further, the Examiner contends that Hutchin’s system of robotic devices 23 corresponds to the claimed central transport system (TS). Applicants respectfully submit that this understanding is incorrect. Hutchins describes only a central transport system which is based mainly on the robotic devices 23, the robotic devices being part of the transport system 21.

The Examiner identifies the workstations 18 with the claimed modules. This understanding is also incorrect. The claimed modules are the larger units and each module comprises one or more devices. Each claimed module comprises a plurality of laboratory devices and processing stations. In Hutchins, however, it is the units 12 that are equipped with workstations 18. The workstations perform operations like washing, incubating reagent dispensing and reading (Hutchins, col. 3:49-61)—similar to the functions performed by the

claimed (laboratory) devices within the claimed modules.

For these reasons, it is Hutchin's units 12 (not work stations 18) that most closely correspond to the claimed modules. Hutchin's workstations 18, on the other hand, most closely correspond to the claimed devices within the modules, as they assume the same types of functions. Consequently, a transport system 21 which moves assay products through the units 12 by using the robotic devices 23 can only correspond to the central transport system TS of the pending application, since the transport between the modules is performed using that central transport system TS.

In light of the above, Applicants respectfully submit that Hutchins does not anticipate the claimed invention because Hutchins fails to disclose several limitations of amended independent claim 5. First, Hutchins does not disclose a system "wherein at least one revolving table having two plate positions is within each module" There are no revolving tables having two plate positions in either the units 12 or work stations 18 of Hutchins.

Further, Hutchins does not disclose "asynchronous plate transfer between individual modules" Hutchins cannot carry out asynchronous plate transfer because Hutchins discloses a synchronously working system. The steps performed in its individual modules are adjusted in a timely manner. It is essential that the position from where a plate is to be taken is occupied with a plate, and that the position to where a plate has to be put down is unoccupied by a plate. This is possible only if all of Hutchin's steps are adjusted in a timely manner to each other—that is, synchronized.

Further, Hutchins does not disclose that "one of the revolving tables of each module functions as an input and output buffer to transfer the plates to and from the at least one central transport system" Hutchin's input-output position 61 is not a revolving table with two plate positions, as required by amended independent claim 5. Further, input-output position 61 cannot perform a buffer function because it has only one position where a plate can be put down. To perform a buffer function, at least two positions must be provided. Further Hutchin's rotatable trays 60 do not function as buffers. Hutchins provides, "a tray 60 at each unit 12 can rotate a received assay plate 180° so as to maintain therefore the same orientation in each unit 12 of the system." (Hutchins, column 4:57-60.)

Further, Hutchins does not disclose that "the internal transport system transporting the microtiter plates by means of the revolving tables and sliding units." The Examiner contends

that Hutchin's rotatable tray 99 shown in Figure 8 together with transport mechanism 98 disclose this limitation. But the function of the rotatable tray 99 is identical to that of the previously described rotatable tray 60—that is, to rotate an assay plate by 180° so as to maintain the same orientation in each unit. This is supported also by the fact that the position where the assay plate is dropped is also named as receiving position 62 as is the case for the rotatable trays. There is a further difference: While the claimed sliding units are part of the internal transport system, Hutchins transport mechanism 98 in Figure 8 is part of the central transport system. According to Hutchins, the transport mechanism 98 moves assay plates between an input receiving position to a receiving position in a succeeding unit. (Hutchins, column 5:50-55.) It assumes a function similar to the function of the robotic devices 23, apart from the fact that the plate is not dropped on an input-output position 61. The reason for using the transport mechanism 98 in the case of the unit shown in Figure 8 instead of using a robotic device 23 is that the unit shown in Figure 8 is an isolation unit. The function of the isolation unit is to segregate sections of the elongated environmentally controlled chamber 19 that require different environmental conditions.

(Hutchins, col. 5:55-58.)

Regarding dependent claim 9, the Examiner contends that Hutchins discloses a sensor that detects whether or not the respective side of the revolving table is unoccupied to ensure that no collisions occur. He refers to column 6, lines 1-55, of Hutchins. Applicants respectfully disagree. The rotatable trays disclosed in Hutchins have only one position for only one plate that is rotatable by 180°, the axis of rotation being essentially in the center of the plate. Since the claimed revolving tables have two positions for plates, the axis of rotation being essentially between two plates, it is of course possible that one of the two positions/sides is unoccupied. But in Hutchins the table and the only position on the table can either be occupied or unoccupied. A sensor with the function disclosed in claim 9—to detect whether or not the respective side of revolving table is unoccupied—is not present in Hutchins because it would have no purpose.

Further, it would not have been obvious for a person of ordinary skill in the art to include such a sensor. At column 6, lines 41-44, Hutchins states that the only communication required between adjacent units are signals indicating that an assay plate is available for transport to a succeeding unit or that a position is available to receive an assay plate from a preceding unit. Such a communication can be realized by methods much simpler than sensors. First, the system is working synchronously, and therefore a time schedule could determine whether a position is free or not. Further, this kind of communication can be established without additional effort by

the control of the robotic devices 23 coupled to their action. Each time a robotic arm takes a plate from the receiving position, that position can be signaled to the preceding unit as being free. Only if the preceding unit receives that signal will the arm be allowed to drop a plate on the free receiving position. Such a communication is much easier to realize than optical or mechanical sensors, which are additional elements requiring additional control. Further, additional communication would be necessary. For these reasons, it would not have been obvious to add any type of sensor to the teachings disclosed by Hutchins.

Similarly, Hutchins does not disclose the limitation of claim 10. To realize that feature, a revolving table with two plate positions is necessary. Since the Examiner identifies not the units 12 but the workstations 18 with the modules M1 to M5 in the pending application, and since those workstations are more or less black boxes (that is, without a detailed and functional description of their interior), nothing can be said about an internal transport system within in the workstations 18 or revolving tables within those workstations.

For these reasons, Applicants respectfully submit that Hutchins does not disclose each limitation of amended independent claim 5 or its dependent claims. Accordingly, Applicants respectfully request withdrawal of the anticipation rejection.

An early action on the merits of these claims is respectfully requested.

ELD:ram
JM:ram

Respectfully submitted,

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